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OUR FILE NUMBER:

009379.00015  
10273301V1

March 2, 2012

VIA EMAIL ([PublicAdvisor@energy.ca.gov](mailto:PublicAdvisor@energy.ca.gov))

California Energy Commission  
Dockets Office, MS-4  
Re: Docket No. 10-BSTD-01  
1516 Ninth Street  
Sacramento, CA 95814-5512

**DOCKET**

**10-BSTD-01**

DATE MAR 02 2012

RECD. MAR 05 2012

**Re: Proposals for Certification of Acceptance Testing Field Technicians for Mechanical Systems and Lighting Controls, Docket No. 10-BSTD-01**  
**Comments of Institute of Heating and Air Conditioning Industries, Inc.**

Dear Sir/Madam:

The undersigned represents the Institute of Heating and Air Conditioning Industries, Inc. (IHACI). IHACI is a nonprofit trade organization founded in 1948. IHACI is the premiere trade organization of the heating and air conditioning industry in California. IHACI's mission is to represent the needs and concerns of HVAC/R/SM professionals. More than 600 licensed California contractors, manufacturers, distributors and utility companies are members of IHACI. These entities are responsible for the employment of tens of thousands of California residents.

This letter shall constitute the comment of the Institute of Heating and Air Conditioning Industries in relation to the foregoing. These comments are structured to the questions the Commission promulgated in relation to the hearing held on February 27, 2012. Each question is set out in italics, with the response to follow.

*Comments of IHACI:*

*I. Is it appropriate for the Standards to require Field Technicians who perform acceptance testing to meet specific training and certification requirements?*

California Energy Commission

March 2, 2012

Page 2

No - such a narrow focus would be counterproductive and out of context for the reasons we identify. Training and certification requirements are part of a broad range of regulation of subject matter with respect to these issues - worker training and certification issues, in part, are addressed through private industry and public works training entities, none of which enjoy either a legislatively mandated monopoly on access to training. Indeed, aspects of the present proposals from the building trades build on narrow craft specific requirements generally deriving from public works construction law. For example, state approved public works apprenticeship and training programs relate to public works apprenticeship requirements and, in scope and detail, are tailored to mandatory apprentice requirements on public works. (See <http://www.dir.ca.gov/das/das.html> and *Labor Code* section(s) 1720 and 3070, et seq.) These requirements do not apply in the situations presently before the CEC and placing them on the CEC regulatory creates a mismatch that is both legally and substantively defective. Indeed, because such programs entail multi-year commitments for these unrelated purposes, they are likely to reduce the possibility of effective acceptance testing generally available. In this context, the public testimony of trades training personnel as to the scope and availability of their members is laudable to the extent additional curricula in these areas are being added to the apprenticeship programs, but not directly responsive to industry-wide capabilities for meaningful acceptance testing.

It should be noted that even in areas such as electrician certification, these requirements were enacted to apply to line-voltage hookups, and have nothing at all to do with acceptance testing. (See <http://www.dir.ca.gov/das/ElectricalTrade.htm> and *Labor Code* Section 3099 and 3099.5.) As testimony at the recent hearing indicated, low voltage is not covered by certification and there are broad exceptions, even in line voltage that apply to owners and others in the functional chain.

This was made profoundly clear in the disparate views of owners and others in the SMACNA community who plainly are aware of the mismatch in the sheet metal and IBEW proposals and at the hearing of February 27, 2012 stated so quite plainly.

A case in point is the argument that commercial compliance is better than residential compliance. In our members' experience, quite the opposite is true. Commercial compliance with existing Title 24 rules is vanishingly low. Our members have gone into Building Departments in Los Angeles County and asked for the MECH forms for commercial compliance, only to find that the building department doesn't have the commercial forms and they instead provide the residential versions. If the time is taken to download the MECH forms and then submit them, the building departments don't recognize them as appropriate, leading one to believe that no one has ever submitted them before.

Finally, the February 27 hearing was not noticed in a way to be effectively addressed by the entire affected community, not only of manufacturers (who have their own warranty-based mandatory acceptance testing) but of the basic craft unions, such as the laborers or carpenters who have independent and likely conflicting views from the crafts at the hearing.

California Energy Commission  
March 2, 2012  
Page 3

In this regard, it bears noting that there are active challenges before the California Apprenticeship Council and in the courts between different trades' apprenticeship programs and the basic crafts where the former are seeking to restrict the expansion of training by the basic crafts. It is, of course, profoundly inappropriate for the Commission to leave such an important part of the labor workforce off the table in its consideration of the pending questions.

By way of background, when trades' representatives spoke of their ability to cover parts of the state, those arguments are part of the testimony and arguments being used to restrict new apprenticeship standards and training based on a doctrine called the "needs test," which states that new training programs must establish old programs cannot meet the need before new ones may be approved. The provision of the Labor Code that contains this restrictive provision has been the subject of a prosecution of the State of California by the United States Department of Labor, resulting in a decertification of California as an approved training state for federal purposes. (See *United States Department of Labor vs. California Department of Industrial Relations and California Apprenticeship Council*, ARB Case No. 05-093.) This ruling remains in effect as of this date. Its functional significance for purposes of any activities regulated by the CEC that involve federal funds, is that use of such funds in situations where federal monies are involved, including rebates, may not be proper to the extent non-compliant regulatory actions are taken by California regulators.

2. *Would current Field Technicians who perform acceptance testing be disadvantaged by training and certification requirements? If yes, how should training and certification requirements be designed to provide a reasonable path for these persons to become qualified?*

Yes - a gatekeeper function would effectively throttle much of the major present capability for effective acceptance testing.

Some of the history with respect to electrical certification bears noting. When first implemented, the testing requirements were not met by many journeymen, such that the requirements for implementation were delayed for many years. That, standing alone, is a major warning sign. Remember that the CEC is not a legislature, has not taken the sort of in-depth look at these issues that is required and, in many ways, is not structurally suited to do so.

We note that while much discussion has occurred with respect to the WET Needs Assessment report, on its face, that report is functionally and fatally flawed because it omits discussion of the points addressed above. Indeed, it does not even list many of the state and federally approved training programs that exist. Surprisingly, it is utterly silent on the legal status of the State of California and its apprenticeship and training regulation with respect to federal funding. Given that the fiscal elements of any compliance effort is intrinsically dependent on the federal relationship, such an inexcusable reflection on the credibility of the report as a whole.

California Energy Commission

March 2, 2012

Page 4

This moment requires going back to the drawing board, and the WET Needs Assessment requires supplementation before it can be even considered a helpful document.

3. *How would training and certification requirements for Field Technicians who perform acceptance testing help to address concerns related to any lack of enforcement by building departments of the acceptance requirements?*

Not at all. Indeed, the initial point of training and standards should be at the building department level.

4. *Are certified general electricians, who are also certified by the California Advanced Lighting Controls Training Program (CALCTP) and who are performing work while employed by a California contractor who holds a CALCTP contractor certification, uniquely qualified to serve as acceptance testing Field Technicians for lighting controls?*

No - in our comments above, we explained the context of present trades' apprenticeship and training and its functional mis-match to the present situation.

5. *Should electricians who are not certified general electricians (e.g., C-10 licensed electrical contractors, or electricians working for school districts or plants, which are not required by state law to be certified general electricians), be allowed to serve as acceptance testing Field Technicians for lighting controls?*

Yes - the certification requirements have nothing to do with Field Testing for lighting controls.

6. *Should licensed engineers or contractors who are not CALCTP certified be allowed to serve as acceptance testing Field Technicians for lighting controls?*

Yes

7. *Should CALCTP certified general electricians, who are not employed by CALCTP certified-lighting contractors, be allowed to serve as acceptance testing Field Technicians for lighting controls?*

If they are trained in the area, this seems appropriate, but the question begs the larger one, whether the focus of proper acceptance testing should be on the contractors, manufacturers and affected utilities. This was highlighted by the SMACNA discussion and disputes - the testimony and evidence on that issue being relevant by analogy.

California Energy Commission

March 2, 2012

Page 5

8. *Are testing, adjusting and balancing (TAB) contractors, who meet all of the apprenticeship, experience and testing requirements of the Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB) or the Testing Adjusting and Balancing Bureau (TABB), uniquely qualified to serve as acceptance testing Field Technicians for HVAC equipment and controls?*

No - the concept of "uniquely qualified" is a gatekeeper market-control philosophy directly contrary to expanding effective acceptance testing.

9. *Should licensed mechanical contractors, who are installing contractors, start-up contractors, or service contractors, that are not certified TAB contractors, be allowed to serve as acceptance testing Field Technicians for HVAC equipment and controls?*

Yes - this is essential.

10. *Should licensed mechanical engineers be allowed to serve as acceptance testing Field Technicians for HVAC equipment and controls?*

Yes, for reasons stated above.

11. *Should building commissioning providers be allowed to serve as acceptance testing Field Technicians for HVAC equipment and controls and for lighting controls?*

Yes, for reasons stated above.

12. *If additional persons other than those that are proposed by IBEW or the Sheet Metal Workers are allowed to serve as acceptance testing Field Technicians, should they be certified for professional qualifications? If so, what certifications would be appropriate for the additional persons (e.g. licensed contractors, engineers, or building commissioning providers)?*

A better starting point approach may be to have standards that apply to the work that would be applied and certified by contractors, owners and other affected entities and a standard to certify the inspectors, whose duty it is to enforce any such standards.

13. *Related to the proposal from IBEW, what are the existing requirements for prerequisites for certified general electricians and CALCTP certification, in terms of:*

a. *Training and Education*

i. *For the certification course*

ii. *Prerequisites required to qualify for taking the certification course*

iii. *Costs associated with each of the above*

California Energy Commission

March 2, 2012

Page 6

- b. *Professional experience*
- c. *Registration, certification or licensing fees*
- d. *Professional licensing or certification*
- e. *Continuing education*
- f. *Renewal*
- g. *Other key qualification requirements*
- h. *Eligibility to waive or fulfill any of the above requirements with other licenses, degrees or qualification*

IHACI does not comment directly, except to note that the IBEW requirements are intrinsic to the needs of the public works centric apprenticeship programs and are tailored to meet those broader needs. There is no provision for anyone to do testing only (though there are proposals from other unions not at the present table that might do so). Certainly, industry and industry associations and vendors are active in this arena.

14. *Related to the proposal from the Sheet Metal Workers, what are the existing requirements or prerequisites for certification by AABC, by NEBB, and by TABB in terms of:*

- a. *Training and Education*
  - i. *For the certification course*
  - ii. *For demonstration of the trainees' mastery of testing requirements in the field*
  - iii. *Prerequisites required to qualify for taking the certification course*
  - iv. *Costs associated with each of the above*
- b. *Professional experience*
- c. *Registration, certification or licensing fees*
- d. *Professional licensing or certification*
- e. *Continuing education*
- f. *Renewal*
- g. *Other key qualifications requirements*

California Energy Commission

March 2, 2012

Page 7

*h. Eligibility to waive or fulfill any of the above requirements with other licenses, degrees or qualification*

Our answer is substantially the same as in 14, above. Focusing on TAB requirements that emanate from public works apprenticeship and training, provides little or no guidance to the Commission.

Adding this testing and verification requirement will make compliance even more difficult. From the figures provided here, it seems that there are fewer than 1,000 certified balancing techs in California. Likely some of those do not work in the field full time, as that count probably includes business owners, class instructors, or people such as engineers that are still in HVAC but no longer working as balancers. Also, there is some double-counting in that number, as many individuals hold credentials in more than one balancing organization. Meanwhile, there are some one million HVAC units sold in California each year. Assuming that a minimum of 10% of those units are for the commercial market - that means 100,000 installations that require verification every year. There just aren't enough balancing technicians available to do the verification as well as handle their existing book of business with their current contractors and specifying engineers. There's no easy way to ramp up those numbers quickly. The 2013 Title 24 rules come into force in 18 months. Yet each balancing organization requires two years of field experience to be certified. And these are national organizations; they won't modify their charters to accommodate the particular needs of California. Those 1,000 technicians are not a base for going forward. They are a bottleneck we won't be able to get past.

All the balancing groups admit that their training does not require knowledge of Title 24 regulations and forms. Some local instructors offer it, but more instruction will be required if this proposal is accepted. Why not let other HVAC groups offer similar instruction? There are organizations like the National Comfort Institute that have trained thousands of technicians. Let them also provide this training. It bears noting that IHACI, has trained over 25,000 technicians in the past three years.

*15. If TAB certification is required for acceptance testing by a Field Technician, should that be limited to acceptance testing related to airflow?*

Commissioning in all its forms is a routine task that involves direct partnering between management, field and computer technicians and manufacturers representatives. In that context, the record is far too incomplete to identify a specific function.

*16. If CALCTP certification is required for acceptance testing by a Field Technician, should that be limited to the acceptance testing related to advanced controls that are the subject of CALCTP training?*

No, for the reasons set out above.

California Energy Commission

March 2, 2012

Page 8

17. *What is the number, location and coverage of persons meeting the certification requirements advocated by IBEW and the Sheet Metal Workers (answer separately for AABC, NEBB, and TABB) that are in California? Specifically:*

- a. *Number statewide*
- b. *In what cities are the certified persons located*
- c. *What locations of the state do not have certified persons within 50 miles*
- d. *What locations of the state have only a limited number of certified persons to cover the expected demand for acceptance testing*

Given the limited nature of training program scope and operation and its integration into public works construction, there is a substantial need for personnel well beyond what can be provided. The Commission should direct an inquiry to the Director of the Division of Apprenticeship Standards and the California Apprenticeship Council which collects and maintains relevant data. (See <http://www.dir.ca.gov/databases/das/aigstart.asp>.)

18. *Should the Energy Commission adopt criteria for approval of industry certification programs? If so, what should the criteria be? What qualifications of current certification programs should be included? Should the criteria include the following?*

- a. *Approval by the Energy Commission of the curriculum for the certification program to include training in the acceptance testing requirements that are applicable to that program*
- b. *Demonstration of the trainee's mastery of the acceptance testing requirements in the field*
- c. *Quality assurance to ensure ongoing quality performance in completing the acceptance testing*
- d. *Complaint resolution to address concerns regarding certified Field Technician performance*
- e. *Documented evidence of actions by the certification program to correct improper performance, provide remedial training, provide coaching or mentoring, provide penalties or decertification of certified persons who repeatedly fail to provide quality acceptance testing*
- f. *Field experience prior to certification; field experience required to be under the supervision of a certified person*
- g. *Certification open to both union and non-union technicians*



California Energy Commission  
March 2, 2012  
Page 9

- h. Certification program administered by non-profit organization which encourages wide participation and is certified by ANSI, ISO or other appropriate accreditation body*
- i. Certification program free of conflict of interests and maintains code of ethics*
- j. Certification actively works with local building departments to promote compliance and enforcement of acceptance requirements and provides acceptance requirement training free of cost to local building department personnel in conjunction with training to technicians*
- k. Other recommended criteria*

IHACI is generally supportive of further action in this regard but does not believe the Commission should support any gatekeeper controls on who performs such work. Let's find a way to get existing commercial installations to get in compliance with existing Title 24 regulations. Once compliance improves, we can continue to work to improve the energy gains Title 24 offers. But with no compliance, the contents of Title 24 are nothing but a dead letter.

Since Title 24 incorporated duct testing for retrofits in 2005, almost none of the projected energy savings have been realized. That is because the retrofit market for HVAC in California relies mainly on self-policing by building owners and tenants. In the new construction and tenant improvement markets, buildings cannot be put into their intended use until a Certificate of Occupancy is issued. Thus all aspects of Title 24 can be enforced by the local building department. But in the retrofit market, the buildings in question are already certified for occupancy. In effect, this makes compliance voluntary.

The 2005 Title 24 rules for duct testing put an unaccustomed and unwelcome burden on building owners and on contractors. The result was a collapse in compliance. It is estimated that in the residential market, retrofit compliance is running at best at 10% and likely as low as 2%. No study has been done for the commercial retrofit market, but the understanding is that, if anything, the numbers are even lower. Accurate numbers should be easy to get; all MECH 1A compliance forms are filed with the appropriate building departments and with the HERS organizations CALCERTS and CHEERS. But the data have never been tabulated or published by the CEC (or anyone else). This would be a useful exercise.

If anecdotal evidence is accurate, somewhere between 90% to 98% of the expected energy savings have not been realized. There are contractors who do work hard to comply. But this proposed revision would make their task even more difficult. Less would be able to do so, and those few who could would see their expense in doing so climb. Their higher costs would lose them market share, slashing compliance numbers even further. Once again, the result would be to forgo more expected savings, with the perverse effect that this revision would boost rather than cut energy use in California.

California Energy Commission

March 2, 2012

Page 10

They build on an overly narrow base: SMACNA, TABB, AABC and NEBB all do an excellent job of setting standards and training technicians. They are, without question, vital parts of any program designed to reduce energy use in the HVAC sector in California.

But they are important actors only in narrow parts of the industry. Including other organizations with strong standards and training programs allows for a much broader approach, taking in a much larger part of the industry. Organizations such as the Air Conditioning Contractors of America (ACCA) and North American Technician Excellence (NATE) have been developing and implementing industry-wide standards for years or decades. The National Comfort Institute (NCI) and National Balancing Council (NBC) have been leaders in developing in-field testing, diagnostics and data collection of installed HVAC systems across the country. The Institute for Heating and Air Conditioning Industries (IHACI) has been the leader in developing and presenting training for HVAC professionals in California since 1947, with tens of thousands of graduates from their programs over the past 10 years.

This proposed rule dismisses the hard work performed by these groups. It excludes a huge proportion of California's HVAC tradesmen. This will result in a major distortion of the HVAC marketplace in our state, benefiting a few but damaging the economic prospects of a much greater number. There is no reason for the state to act in such a discriminatory manner.

They unduly disrupt an already unsettled industry: The 2005 Title 24 rules deliberately set out to revamp how HVAC retrofit work was done in our state. The rules created a whole new group in the industry; the HERS raters. Raters had to be found, trained, equipped and then find connections to HVAC contractors. Building departments had to master a slew of new forms and procedures. Acceptance at first was difficult, but now many contractors and building officials have gained experience with the process.

This change eliminates all that progress. The HERS raters are forced with a choice; add more training and tools to become certified by TABB or the others, or leave the industry. Existing TABB balancing technicians will now have to master Title 24 processes and paperwork; and contractors who have developed strong working relationships with HERS raters are thrown back to square one.

California Energy Commission

March 2, 2012

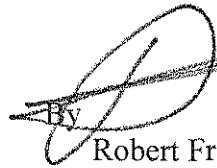
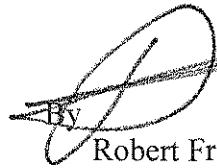
Page 11

*CONCLUSION*

IHACI continues to encourage efforts to save energy in California, and without question a vital element in reaching that goal is a properly working Title 24 energy code. Ideas for improving Title 24 are always welcome. Bringing SMACNA, TABB, AABC and NEBB in to improve Title 24 compliance makes great sense - but not if it results in excluding other, vital members of the HVAC community.

Very truly yours,

ATKINSON, ANDELSON, LOYA,  
RUUD & ROMO

 By   
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